NEBRASKA

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DEPT. OF ENVIRONMENT AND ENERGY

Pete Ricketts, Governor

December 22, 2021

DEC 2 2 2021

Mr. Don Gunster
Project Manager, AltEn Facility Response Group
NewFields, Inc.
300 Ledgewood Place
Suite 305
Rockland, MA 02370

RE: NDEE Comments on Interim Remedial Action Plan #1
AltEn Facility Response Group VCP Project, Mead, Nebraska
Facility ID: 84069
Program ID: RAP 36-336-4975

Dear Mr. Gunster:

The Nebraska Department of Environment and Energy (NDEE) has reviewed the Interim Remedial Action Plan dated November 1, 2021, prepared by NewFields, Inc. for the AltEn Facility Response Group (AFRG) under NDEE's Voluntary Cleanup Program (VCP). NDEE is providing the attached comments generated as a result of this review. Please address these comments and resubmit a revised Interim Remedial Action Plan within 30 days of the receipt of this letter.

If you have any questions, please contact me at (402)471-4270 or thomas.buell@nebraska.gov. Thank you in advance for your cooperation.

Sincerely,

for Thomas Buell
Division Administrator, Monitoring & Remediation Division

Enclosure

jb

20210693099

Department of Environment and Energy
P.O. Box 98922
Lincoln, Nebraska 68509-8922

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NDEE COMMENTS

Interim Remedial Action Plan #1 Voluntary Cleanup Program – Interim Site and Material Management Investigation Plan

AltEn Site, Mead, Nebraska

NDEE IIS Facility # 84069, Program ID: RAP 36-336-4975

VCP Process Comments

1. The Nebraska Department of Environment and Energy's (NDEE) review of the Interim Remedial Action Plan (IRAP) for the AltEn Site Voluntary Cleanup Program (VCP) project focuses on the technical aspects of the document. NDEE is not reviewing or providing comment on the non-technical aspects of the IRAP, including the AltEn Facility Response Group's (AFRG; the VCP Applicant) narrative related to the facility history, except for specific instances (as documented below) related to applicable NDEE programs.
2. It is NDEE's expectation that once the IRAP is approved, implemented, and the interim actions contained therein completed, the AFRG will submit an Interim Remedial Action Report (IRAR) summarizing the interim site actions and controls. The AFRG will also be expected to prepare a Final Remedial Action Plan (RAP) summarizing the data gap investigation(s) results and proposing specific actions for the final disposition of wet cake and lagoon sludge that will be implemented upon public notice and approval by NDEE.
3. Based on the timing of the proposed actions in the IRAP, it is likely that the AFRG will need to start disposing of the treated impoundment water prior to completing the proposed data gap investigation for the wet cake and lagoon sludge. Therefore, the final action for the treated impoundment water should be proposed in the IRAP so that it is subject to public notice and approval by NDEE prior to implementation. Please revise the IRAP to propose land application and/or direct discharge through an NPDES permit as the final action for the treated impoundment water. If land application is retained as a disposal option, then please include the table from Appendix D of the land application proposal as the proposed Remediation Goals (RGs) for this option, and a copy of the approved land application plan as an attachment to the IRAP. It is understood that these are application-specific RGs, and in this instance are also permit limits. If direct discharge is retained as a disposal option, then please indicate that the RGs/permit limits for this option will be included in the application for the NPDES permit.

IRAP Document Comments

1. **Cover/Title Page.** Please revise the NDEE address to PO Box 98922, Lincoln, NE 68509-8922.
2. **Section 1.0, Introduction (page 2).** The last sentence of the Introduction states, "The final RAP will be useful for the State of Nebraska to provide a basis for pursuing funding and other approaches for its long-term management of the Site." Please revise this

sentence to, "The final RAP will propose a plan for final disposition of the wet cake and lagoon sludge."

3. **Section 1.1, Site Conditions (bullets, page 3).** The second-to-last bullet lists the Biochar Unit as a facility or area of the AltEn Site. Please note here that the Biochar Unit belongs to Green Disposal Mead, LLC.
4. **Section 1.2, Definitions (pages 3-5).** It is understood that the definitions related to stormwater (e.g. contact water, non-contact water, process water, etc.) are to provide clarity in the IRAP and do not replace definitions in state or federal regulations and statutes.
5. **Section 2.0, Interim Remedial Action Objectives (page 5)**. The Interim Remedial Action Objectives (RAOs) include interim management of treated and untreated water; interim management of the wet cake; and characterization of the wet cake, lagoon sludge, and treated and untreated waters to determine options for long-term management. The Interim RAOs should define the qualitative and quantitative goals that will be achieved based on all proposed actions in the IRAP. NDEE recommends that the Interim RAOs be more descriptive. Although it is the obligation of the AFRG to propose Interim RAOs to NDEE's satisfaction, NDEE suggests the following revised Interim RAOs:
    a. Complete interim site controls to maintain the site until long-term management is determined, including the following:
        i. Interim management of treated and untreated water. Prevent imminent hazards from the impoundments by managing storage capacity within the three lagoons, two Treated Water Pond System cells, and Emergency Pond; and performing inspections of the impoundments to verify embankment stability.
        ii. Interim management of wet cake. Minimize rainwater contact with the wet cake by managing the NW Wet Cake Pile area, former East Wet Cake Pile area, and drainage network. Ensure that leachate is managed to prevent comingling with water from non-contact areas using stormwater and baseline erosion control measures and periodic inspections. Manage non-contact stormwater in compliance with the current AltEn stormwater discharge permit.
        iii. Worker safety. Ensure the safety of on-site workers by completing air monitoring during the active management of wet cake or sludge; controlling odor and dust during construction and consolidation activities; managing vegetation on-site to allow visual inspection of the embankment conditions and access to the impoundments and pumping equipment; installing a security fence following construction of the Treated Water Pond System; performing on-site activities in accordance with the site-specific health and safety plan; and informing visitors of potential site hazards.
    b. Dispose of treated impoundment water by a combination of land application and/or direct discharge. Land application will be carried out in accordance with an NDEE-approved plan and subject to the RGs/permit limits in the approved plan. Direct discharge of treated water will be subject to an NPDES permit authorization, and subject to the permit limits in the NPDES permit.
    c. Complete data gap investigations for on-site material management to identify long-term management options for wet cake and lagoon sludge. Consider design constraints and characterize the wet cake and lagoon sludge to determine if thermal treatment, landfilling/containment, and/or beneficial reuse in a cement

kiln may be an appropriate management option. Remedial goals specific for the wet cake and lagoon sludge will be established after characterization of the materials and subject to public notice in a Final RAP.

d. Prepare an IRAR summarizing the interim site controls.
e. Prepare a Final RAP summarizing the data gap investigation and proposing a plan for final disposition of the wet cake and lagoon sludge.

6. **Section 3.1.1.1, Location and Surface Features (2nd full paragraph, page 6).** Please revise "Greencycle Solutions, LLC" to "Green Disposal Mead, LLC."
7. **Section 3.3, Site Conditions, Current AltEn permits (page 11).**
    a. Please add the following permit: Air Quality Class II Operating Permit OP16S2-001
    b. Please replace the first bullet to: "NPDES stormwater authorization NER910444 under General Permit NER910000". In the second bullet please replace "currently no discharge" with "noncontact cooling."
8. **Section 4.0, Emergency Response Measures, (bullets, page 13).** The fourth main bullet states "Four impoundments (three lagoons and the Emergency Pond) covering approximately 40 acres and containing approximately 173 million gallons of process wastewater and over 100,000 CY of sludge." It is the Department's understanding based on stage-storage tables that the value of 173 million gallons provided is the total material in the four impoundments, and that the 100,000 CY of sludge is part of the 173 million gallons of material stored. In other words, there are 173 million gallons of combined process wastewater/sludge and the 100,000 CY of sludge is not in addition to 173 million gallons of process wastewater. Moreover, on Page 14, the last paragraph includes the following statement: "These activities are necessary as emergency measures while permanent solutions can be identified for the large volume of solids (>350,000 CY of consolidated wet cake and lagoon sludges) and liquids (>180,000 million gallons) that have accumulated..." Please clarify.
9. **Section 4.2, Maintenance of Lagoon Design Freeboard (page 18).** Please revise the currently established design freeboard requirement for the Northwest Lagoon to 2.1 feet and the Southeast Lagoon to 3.0 feet. Please also revise these levels on Figures 25 & 28.
10. **Section 5.2, Wet Cake Cover and Gas Control Inspection and Maintenance (page 25)**. The title of Section 5.2 references inspection of the gas control system, but neither the system nor inspection activities are discussed in the IRAP. Please revise this section accordingly.
11. **Section 5.5.1, General (page 26).** This section discusses stormwater controls. The first bullet refers to "leachate" from the wet cake and the 2nd sentence of the ensuing paragraph provides that the wet cake pile will have a "seepage" collection system. Please be consistent. (NDEE would prefer the use of "leachate.")
12. **Section 5.5.2, Non-Contact Stormwater Controls (page 27).**
    a. The fourth bullet in this section states "Stabilize disturbed soils as soon as possible;" please add language to this bullet to describe that disturbed soils will be stabilized immediately when an area is inactive for 14 days or longer.
    b. The last bullet in this section says that riprap stone will be installed in swales observed to be receiving extensive sediment flow; please consider riprap check dams for areas of increased velocity.
    c. In the second to last paragraph, please name the General Permit, NER210000, as a baseline with an emphasis on parts III and IV. F.

d. The last paragraph describes periodic inspections of sediment barriers. Please revise the IRAP to include that following a precipitation (greater than 0.25") or wind event, an inspection will be conducted within 7 days or prior to the next storm event.

13. **Section 6.0, Data Gap Investigation for Site Material Management (page 28).**
    a. Please revise the second paragraph to read "The quantity of water on the Site will continue to increase until treated water can be **disposed of in accordance with the approved IRAP.**"
    b. Please revise the third paragraph, in reference to wet cake and lagoon sludge, to read "...will require removal, dewatering, and disposal **in accordance with an approved Final RAP.**"
14. **Section 6.3.1, Management Options (page 34).** Please include language to the second paragraph to indicate that final management options will be performed in accordance with a Final RAP, subject to public notice and approval by NDEE.
15. **Section 6.3.3, Water Characterization, Sampling (page 36).** The first full paragraph discusses the collection of composite water samples within each lagoon. Please provide more detail as to the number, location, and depth of aliquot samples for each composite sample to be obtained from within each lagoon. Please see Attachment 1 as an example of the information that should be included.
16. **Table 2, Organic and Inorganic Data Purpose & Table 7, Organic and Inorganic Laboratory and Field, Water Analyses.** Both these tables include an analyte group labeled "Contemporary Pesticides." Please include a listing of the individual pesticides under consideration here.
17. **Figure 3, Site & Surrounding Areas.** Please revise the legend entry for "Greencycle Solutions" to "Green Disposal Mead, LLC" biochar operation.

Future Documents

1. As discussed in the VCP Process Comments section above, it is the expectation of NDEE that the AFRG will provide an Interim Remedial Action Report (IRAR) that will document the final interim actions at the site, including wastewater storage and wet cake/lagoon sludge cover operations. This report should specifically include construction details and applicable permits for the treated water storage ponds and the final cover plan for wet cake/lagoon sludge as approved by NDEE.

Attachment 1. Lagoon Sampling Plan Example

A composite sample should be collected from each of the three lagoons in the three-celled industrial lagoon system, as well as the emergency lagoon. This composite sample should include samples from eight locations from each lagoon, including the four corners of the lagoon and the middle of each side of the lagoon. Moreover, at each sampling location, three discrete samples should be collected at different depths to form a depth-based composite sample at that location. This will result in 24 discrete samples from each lagoon that will result in a single composite sample for each lagoon. All discrete samples should be of equal volume.

The three different depths where three discrete samples should be collected at each sampling location are as follows:

1. One discrete sample 18 inches above the bottom of the lagoon
2. One discrete sample 18 inches below the water surface, and
3. One discrete sample equidistant from these two samples.

For example, if the total depth of the lagoon at the time of sample collection is 12 feet, one sample would be collected 1.5 feet from the bottom, one sample would be collected 6 feet from the bottom, and one sample would be collected 10.5 feet from the bottom. If sludge accumulation has occurred, the deepest sample will occur 18 inches above the top of the sludge accumulation. For example, if the total lagoon depth is 14 feet, but 6 feet of the depth is sludge, then a sample will be collected 1.5 feet above the sludge (7.5 feet from original bottom), 4 feet above the sludge (10 feet from original bottom), and 6.5 feet above the sludge (12.5 feet from original bottom).

If the depth between the bottom of the lagoon or top of the sludge to the water surface is less than five feet, only two discrete samples need to be collected at the sampling location. In this case, one discrete sample should be taken 18 inches above the bottom of the lagoon and one discrete sample should be taken 18 inches below the water surface. If the water depth is less than three feet, only one discrete sample needs to be taken and it should be collected from a point equidistant from the bottom of the lagoon or top of the sludge and the water surface. The total depth of each lagoon and the sludge depth will be recorded for each lagoon at the time of sampling.

An equipment rinsate blank sample should be collected for all non-disposable equipment.